

## CLAIMS:

1. A communication device, comprising:
  - a wireless part including a wireless transmitter and wireless receiver;
  - a transmitter/receiver part including a receiver circuit for processing a reception signal received by the wireless receiver and a transmitter circuit for processing a transmission signal transmitted by the wireless transmitter; and
  - a control part selectively connecting the wireless transmitter to the transmitter circuit and selectively connecting the wireless receiver to the receiver circuit according to a switched stand-by mode and communication mode,
  - the control part further including a tone generator configured to output an activation tone on the transmission signal when switched to the communication mode, the activation tone automatically causing a handset receiving the transmission signal to switch from a reception mode to a reception and transmission mode.
2. The communication device according to claim 1 wherein the control part outputs a first activation tone on the transmission signal for a predetermined time and at a first frequency after switching to the communication mode causing the handset to switch to the reception and transmission mode,
  - the control part outputting a second tone on the transmission signal for a predetermined time at a second frequency after switching back to the stand-by mode causing deactivation of the handset transmission mode.
3. The communication device according to claim 1 wherein the control part includes a push-to-talk switch that upon being pressed automatically activates the tone generator and automatically activates a power source in the wireless transmitter.
4. A communication device, comprising:
  - transmitter circuitry for transmitting a wireless transmission signal;
  - receiver circuitry for receiving a wireless reception signal; and

control circuitry selectively switching the transmitter and receiver circuitry between a stand-by mode where only the wireless receiver circuitry is operational and a communication mode where both the receiver circuitry and the transmitter circuitry are operational, the control circuitry including a tone detector that automatically causes the control circuitry to switch from the stand-by mode to the communication mode when a activation tone is detected in the reception signal.

5. The communication device according to claim 4 wherein the tone detector automatically switches to the communication mode when a first activation frequency tone is detected in the reception signal and automatically switches to the stand-by mode when a second deactivation frequency tone is detected in the reception signal.
6. The communication device according to claim 4 including a voice detector automatically causing the control circuitry to switch from the stand-by mode to the communication mode when a voice signal is received by the transmitter circuitry and automatically causing the control circuitry to switch back to the stand-by mode when no voice signal is received by the transmitter circuitry for a predetermined amount of time.
7. The communication device according to claim 4 including a transducer coupled between the transmitter circuitry and the receiver circuitry configured to operate as both a microphone and a speaker.
8. The communication device according to claim 7 including a first noise filter coupled between the transducer and the transmitter circuitry and a second noise filter coupled between the transducer and the receiver circuitry.
9. The communication device according to claim 4 including a photo-switch coupled between the control circuitry and a power source activation signal in the transmitter circuitry.

10. The communication device according to claim 4 including an antenna switching circuit automatically connecting an antenna to the receiver circuitry during the stand-by mode and automatically connecting the antenna to the transmitter circuitry during the communication mode.

11. A half-duplex wireless communication device, comprising:

a wireless section including a wireless receiver for receiving a wireless reception signal and a wireless transmitter for transmitting a wireless transmission signal;

a transmitter/receiver section that includes a receiver section for outputting the reception signals as an audio output signal and a transmitter section for converting an audio input signal into the transmission signal supplied to the wireless transmitter; and

a control section switching between a stand-by mode where the wireless receiver is coupled to the receiver section and the wireless transmitter is powered off and disconnected from the transmitter section and a communication mode where the wireless receiver is coupled to the receiver section and the wireless transmitter is powered on and coupled to the transmitter section,

the control section automatically switching from the stand-by mode to the communication mode when a voice signal is detected in the transmission signal.

12. The communication device according to claim 11 wherein the control section automatically switches back to the stand-by mode when no voice signal is detected in the transmission signal for a predetermined period of time.

13. The communication device according to claim 11 wherein the control section automatically switches from the stand-by mode to the communication mode when a first predetermined frequency tone is detected in the reception signal.

14. The communication device according to claim 13 wherein the control section automatically switches from the communication mode back to the stand-by mode when a second predetermined frequency tone is detected in the reception signal.

15. The communication device according to claim 11 wherein the transmitter section and the receiver section comprise a single transducer configured into an ear piece for inserting into an external ear canal of an operator, a first amplifier coupled between the wireless receiver and a first the transducer and a second amplifier coupled between the wireless transmitter and the transducer.

16. The communication device according to claim 11 wherein the control section includes a first switch coupled between the wireless receiver and the receiver section, a second switch coupled between the wireless transmitter and the transmitter section, and a transmission/reception switch controller that shuts the first switch and opens the second switch during the stand-by mode and shuts both the first and second switch during the communication mode.